

WHAT IS CLAIMED AS NEW AND IS DESIRED TO BE SECURED BY LETTERS
PATENT OF THE UNITED STATES IS:

1. A method of inducing cellular immunity against a virus comprising
administering to a patient a nucleic acid encoding an envelope glycoprotein of said virus, in an
5 amount sufficient to induce cellular immunity against the virus, wherein said envelope
glycoprotein

(a) contains a modified immunodominant epitope; and

(b) induces cellular immunity to a conserved epitope of said envelope glycoprotein.

2. The method of Claim 1, wherein said nucleic acid is introduced into antigen
10 presenting cells (APCs) and said APCs are administered to the patient.

3. The method of Claim 1, wherein said virus is a lentivirus.

4. The method of Claim 2, wherein said lentivirus is human immunodeficiency virus
(HIV).

5. The method of Claim 1, wherein said immunodominant epitope is the third variable
15 loop (V3) of said envelope glycoprotein.

6. The method of Claim 1, wherein said immunodominant epitope is a neutralization
epitope.

7. The method of Claim 2, wherein said APCs stimulate peripheral blood
mononuclear cells (PBMCs).

20 8. The method of Claim 7, wherein said PBMCs exhibit increased cytotoxic T-
lymphocyte (CTL) activity against conserved epitopes of the envelope glycoprotein compared
to PBMCs stimulated with APCs encoding a full-length envelope glycoprotein.

9. The method of Claim 2, wherein said APCs encoding the modified envelope
glycoprotein are resistant to antibody-dependent cell-mediated cytotoxicity (ADCC).

10. The method of Claim 2, wherein said APCs encoding the modified envelope glycoprotein do not form syncytia.

11. The method of Claim 2, wherein said APCs encoding the modified envelope glycoprotein do not undergo apoptosis.

5 12. The method of Claim 2, wherein said APCs encoding the modified envelope glycoprotein induce cellular immunity to said virus without inducing apoptosis of CD4⁺ T cells.

13. The method of Claim 1, wherein the immunodominant epitope is deleted.

14. A method for preparing a vaccine against a virus comprising:

10 (a) introducing into a vector DNA or liposome a nucleic acid encoding an envelope glycoprotein of said virus, wherein said envelope glycoprotein contains a modified immunodominant epitope; and

(b) mixing said vector DNA or liposome with a suitable adjuvant.

15 15. The method of Claim 14, wherein said nucleic acid is introduced into APCs and said APCs are mixed with the adjuvant.

16. The method of Claim 14, wherein said virus is a lentivirus.

17. The method of Claim 15, wherein said lentivirus is human immunodeficiency virus (HIV).

20 18. The method of Claim 14, wherein said immunodominant epitope is the third variable loop (V3) of said envelope glycoprotein.

(a) cells expressing on their surfaces an envelope glycoprotein of said virus, wherein said envelope glycoprotein contains a modified immunodominant epitope; and

20. The method of Claim 19, wherein said virus is human immunodeficiency virus

(HIV)

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